

WHAT IS CLAIMED IS:

1. A decision-making route control system comprising:

monitoring means for monitoring a state of a network to collect route information and decision elements for decision making;

judging means for judging a route switching based on the route information, the decision elements, and predetermined decision conditions;

a decision-making judging computer including controlling means for outputting a route judged by the judging means as control information;

a route generating router for replacing the control information with route switching information to output the route switching information; and

a route propagating router having a routing table, and executing route propagation to a sender router based on routing information in the routing table and route switching information transferred from the route generating router.

2. A decision-making route control system according to claim 1, wherein the decision-making judging computer transfers control information generated by a network management protocol to the route generating router based on route information collected by the network management protocol and the decision elements for decision making, and the route generating router, the route propagating router, and the sender

router execute route propagation based on a routing protocol.

3. A decision-making route control system according to claim 1, wherein the route generating router has a loop-back interface or a logical line, replaces a route valid/invalid situation as control information transferred from the controlling means based on a network management protocol with route switching information based on a routing protocol, and then outputs the route switching information to the route propagating router.

4. A decision-making route control system according to claim 1, wherein the monitoring means collects route information of a first route and a second route and decision elements for decision making by monitoring a state of a network.

5. A decision-making route control system according to claim 4, wherein the judging means has a predetermined threshold value in predetermined decision conditions, and interrupts switching for the first route and set the second route as a information propagation route when a traffic exceeds this threshold value.

6. A decision-making route control system comprising:  
monitoring means for monitoring a state of a network to collect route information and decision elements for decision making;

judging means for judging a route switching based on the route information, the decision elements, and predetermined

decision conditions;

a decision-making judging computer including controlling means for outputting a route judged by the judging means as control information;

a route update logical network connecting router for switching a route from a first route side to a second route side in updating the route; and

a logical network connecting router having route information and a routing table, and executing route propagation to a sender router by reflecting route information on the routing table based on control information transferred from the controlling means, and having a relaying function for relaying information to a first route or a second route in compliance with a route valid/invalid situation transferred from the controlling means based on a network management protocol.

7. A decision-making route control system according to claim 6, wherein the decision-making judging computer transfers control information generated by the network management protocol to the logical network connecting router in compliance with route information collected by the network management protocol and decision elements for decision making, and the logical network connecting router, the route update logical network connecting router, and the sender router execute route propagation based on a routing protocol.

8. A decision-making route control system according

to claim 6, wherein the logical network connecting router has a logical line to propagate a route to the sender router, and has a relaying function to the first route or the second route.

9. A decision-making route control system according to claim 6, wherein the monitoring means grasps a situation of a non-neighboring router by monitoring a route update side router, and collects route information of the first route and the second route and decision elements for decision making.

10. A decision-making route control system comprising:  
monitoring means for monitoring a state of a network to collect route information and decision elements for decision making;

judging means for judging a route switching based on the route information, the decision elements, and predetermined decision conditions;

a decision-making judging computer including a controlling means for outputting a route judged by the judging means as control information;

a control information converting router for replacing the control information transferred from the controlling means to output it; and

a route propagating router having a routing table, and executing route propagation to a sender router based on the control information transferred from the control information converting router and routing information in the routing table.

11. A decision-making route control system according to claim 10, wherein the control information converting router has an address translation table, and address-translates route switching information transferred from the controlling means to the route propagating router to relay it to the route propagating router.

12. A decision-making route controlling method comprising the steps of:

monitoring a state of a network to collect route information and decision elements for decision making;

judging a route switching based on collected information and predetermined decision conditions;

outputting a route valid/invalid situation of a judged route to a route generating router based on a network management protocol;

replacing the route valid/invalid situation transferred based on the network management protocol with route switching information based on a routing protocol;

outputting replaced route switching information to a route propagating router; and

executing route propagation to a sender router based on the route switching information and routing information in a routing table.

13. A decision-making route controlling method comprising the steps of:

monitoring a state of a network to collect route information and decision elements for decision making;

judging a route switching based on collected information and predetermined decision conditions;

outputting a route valid/invalid situation of a judged route to a logical network connecting router based on a network management protocol;

replacing the route valid/invalid situation transferred by the network management protocol with route switching information based on a routing protocol;

executing route propagation to a sender router based on replaced route switching information and routing information in a routing table; and

selecting a relay to a first route or a second route according to the route valid/invalid situation.

14. A decision-making route controlling method comprising the steps of:

monitoring a state of a network to collect route information and decision elements for decision making;

judging a route switching based on collected information and predetermined decision conditions;

outputting a route valid/invalid situation of a judged route to a route propagating router based on a routing protocol;

replacing a sender address of control information transferred by the routing protocol and relaying it to the route

propagating router; and

executing route propagation to a sender router based on control information and routing information in a routing table.